THE UNIVERSITY OF ALABAMA SYSTEM

THE UNIVERSITY OF ALABAMA • THE UNIVERSITY OF ALABAMA AT BIRMINGHAM • THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

Office of the Chancellor

September 1, 2006

The Honorable Tom Coburn, M.D.
Chairman
Subcommittee on Federal Financial
Management, Government Information,
And International Security
United States Senate
Washington, D. C. 20510-3604

Dear Senator Coburn:

As the Chancellor of The University of Alabama System, I have been forwarded your letters dated July 27, 2006, which were received by The University of Alabama, The University of Alabama at Birmingham, and The University of Alabama in Huntsville. Because all lobbying strategies and the monitoring of our lobbying efforts are directed and supervised at the System level, we will respond to your inquiry as a consolidated unit.

Alabama's largest higher education enterprise with more than 45,000 students and an operating budget in excess of $2.5 billion, the University of Alabama System includes the three doctoral research universities you identified in your request as well as the UAB Health System. Points of great pride in our System include an internationally ranked medical school and teaching hospital, a national Center for Space Science and Technology, and Alabama's only public school of law. On an annual basis, the various components of the University of Alabama System have competed successfully for more than $456 million in research contracts and grants.

Our Board of Trustees takes its responsibilities as the governing board for Alabama's largest employer extremely seriously. Despite the size of our operating budget and an annual economic impact exceeding $8 billion, we receive less than 19% of our funding from the Alabama Legislature.

401 Queen City Avenue • Tuscaloosa, Alabama 35401-1551
Telephone (205) 348-5861 • Facsimile (205) 348-9788
Electronic Mail • MPortera@uasystem.ua.edu

Federal contracts and grants are an essential component of our overall funding stream and include awards from Federal agencies that support higher education, research and development, veterans' education, work study, public health, transportation, medical research, and public service. All of these efforts are funded under Article I, Section 9 of the Constitution of the United States, whether they are competitively awarded by the agency or awarded by the agency through Congressional direction. In every case, we are diligent in our efforts to ensure that Federal dollars are expended for the stated purpose under the law and regulations of the Federal agency. We work closely with agency program offices to develop a scope of work and budget that meets the needs and objectives of the agency and meets the intent of the legislation that provided funding for the program.

The Alabama Congressional Delegation is a vital partner in helping our institutions effectively serve the citizens of our state. Whether the funded initiative is large or small, our goal is to leverage Federal dollars – using those funds as seed or match money that is combined with state, county, local and private funds to bring an economic engine to life. For example, just this year we opened a new biomedical research building on our campus in Birmingham. The new facility was made possible by support from the State of Alabama, Jefferson County, the City of Birmingham, public and private companies, and the Congress of the United States. Our State government during the recently completed legislative session appropriated a special $10 million line item of continuing core research support. These funds are to be used to hire new researchers. We expect to generate an additional $50 million in capital funds to be used to support the addition of research space. The research alley that we are building will be linked to a new technology incubator in downtown Birmingham. Our Board of Trustees just this summer took the bold step of allocating $5.0 million to match a $5.0 million commitment from our Health Services Foundation as the anchor to a proposed $25-30 million venture capital fund. We presently employ approximately 18,000 people on our Birmingham campus and we expect to add 1,500 to 2,000 people from expanded research activities that are made possible by the partnership we have created with Congressional support.

Both State and Federal legislative initiatives are supervised here at the System level. Each campus sets forth their priorities and projects on an annual basis, and that information forms the foundation for a plan that has both long- and short-term timelines. Our role is to continuously monitor those priorities to ensure that they remain aligned with institutional missions and remain non-duplicative. We then pursue those priorities. Frankly, Senator Coburn, in a state like ours, we strongly believe it would be a disservice to our fellow citizens not to aggressively pursue Federal, state and private funding support.

On the state level, we recently consolidated our office in the capitol, Montgomery, with Auburn University. While Alabama and Auburn are legendary gridiron opponents, we stand side by side in the state funding arena. The results have been outstanding. Since we have consolidated, we have been more successful in the State budget process while reducing overhead expenses. At the Federal level, we have also reduced expenses by eliminating staff, overhead and expenses by utilizing the excellent efforts of a Federal relations firm. This decision has simultaneously cut costs and improved efficiency.

While we applaud your efforts to shepherd taxpayer dollars to achieve the best possible outcomes, it will not be possible for the UA System to meet the deadline you have referenced in your letter. As you are aware, not only is the scope of your request extremely broad, including but not limited to "all appropriations" for the past six years, but all of our institutions are in the final stages of beginning the fall semester, which promises to be a record-setting academic year for the University of Alabama System. I hope the information provided here will demonstrate our efforts to comply with the essence of your request.

I have asked each of our campuses to provide three examples of Federal appropriations they have received. We hope these will give you a helpful overview of the size and scope of UA System initiatives. (See Attachment A)

On behalf of the University of Alabama System, I want to thank you for your service in the United States Senate.

Sincerely,

Malcolm Portera
Chancellor

UA Projects for Coburn Letter Response

University Transportation Center for Alabama

Based at The University of Alabama, the University Transportation Center for Alabama (UTCA) is a joint center involving UA, UAB and UAH.

UTCA focuses on "Management and Safety of Transportation Systems." Its mission is identical to that of the University Transportation Centers Program of the Research and Special Programs Administration of the U.S. Department of Transportation: To advance technology and expertise in the multiple disciplines that comprise transportation through the mechanisms of education, research, and technology transfer while serving as a university-based center of excellence. Center projects include a seatbelt promotion project that saturated the media with safety messages encouraging seat belt use. The campaign has **helped increase seatbelt use to about 82 percent in Alabama,** the most dramatic increase and the highest level, at that time. Other projects have included: **development of a bridge testing manual** for the Alabama Department of Transportation, **development of a risk-based decision making foundation for bridge inspection, rating and maintenance; identification of high-risk older drivers and recommending guidelines to diminish the number of accidents** attributable to them.

The center has also had a significant economic impact on the state of Alabama, playing a role in Hyundai's decision to locate a new U.S. facility in the state. The University of Alabama was part of the original presentation to Hyundai. UA's presentation focused on the University Transportation Center for Alabama and the Alabama Institute for Manufacturing Excellence. Hyundai's $1.1 billion automotive plant near Montgomery employs more than 2,800 people who are building Hyundai's Sonata sedan and the Santa Fe sport utility.

Center for Advanced Vehicle Technology

The Center for Advanced Vehicle Technology has two technical thrusts vital to the state of Alabama. **Advanced propulsion technologies and vehicle structure technologies impact the various automotive industries throughout the state.** From research on advanced reciprocating engines and low-emission and high-energy efficiency engine designs to noise and vibration analysis and dynamic modeling, the **CAVT projects enhance industrial partnerships and encourage further investment in R&D activities at the University. For the past five years, the CAVT has sponsored 28 projects with $2.3 million in research funding plus $1.3 million from UA cost share. For each Department of Transportation dollar ($3 million), $3 is added from UA, partners, spin-offs, and other research initiation.**

This funding has developed faculty expertise that led to further industrial investment in R&D activities in UA, including, for example, a "Noise, Vibration and Harshness" project from Daimler-Chrysler. It has also supported the education of graduate and undergraduate students in vehicle technologies, through research projects, educational activities, and student competitions. These students fill needs for engineers of the state's automotive industry. The availability of vehicle science and technology expertise developed through earmark funding will encourage automotive manufacturing and R&D to locate future facilities in Alabama.

Nanostructured Catalysts for the Hydrogen Economy

With this funding, **UA has established a research team that will build the research infrastructure necessary to develop a new methodology for nanoscale design of fuel cell catalysts.** This infrastructure will contribute to the emerging automobile industry in the State of Alabama, and it has great potential to bring entirely new industries and technologies to the region. The long-term economic implications of implementing the hydrogen economy – replacing gasoline and diesel powered vehicles with fuel cell powered vehicles -- are immense.

Nanoscale catalysis is projected to be the first widespread realization of nanotechnology, and nanotechnology will establish entirely new industries that will, in many respects, dwarf the semiconductor revolution of the late 20th century. By one estimate, nanotechnology will create a $1 trillion market by 2015. Like the semiconductor revolution, this new revolution will be research driven, and much of that research can and must be performed at universities.

The research required to address these challenges is both equipment and personnel intensive, and the equipment required to perform world-class research in catalysis and nanotechnology comes at daunting cost. UA is ideally situated to lead this research. UA's interdisciplinary team of faculty researchers has a long history of successful collaboration in work with both fuel cell technology and nanotechnology. Indeed, **the UA team is the only group in the world with participating expertise in all of the research areas required for development of nanocatalysts for effective hydrogen utilization.** In addition, UA already owns millions of dollars worth of the necessary equipment.

Fuel Cell and Hybrid Electric Vehicles

The development of fuel efficient vehicles, such as hybrid electric vehicles and diesel engines, and transportation modes, such as mass transit, is essential to stem the threat to our economy, energy security and environment posed by upward spiraling imports of expensive foreign oil. High fuel costs, which many expect to become permanent, will stimulate increased demand for fuel efficient vehicles and for mass transit. Mass transit fuel efficiency can be greatly increased by hybrid-electric and fuel cell technologies. The earmark for Fuel Cell and Hybrid Electric Vehicles allows UA researchers to address these critical issues.

Research to develop new transit vehicles is critical to meeting future transportation challenges. A new generation of vehicles will employ a number of technologically advanced systems including: advanced propulsion power plants such as electric, alternative fuels, hybrid-power and fuel cells; ultra-low emission systems; light-weight and smart materials; intelligent systems for controls; and low noise and acoustically designed systems. In addition to the research necessary to implement these new technologies, a new generation of graduate engineers and scientists are needed to support these technological advances.

Shelby Interdisciplinary Biomedical Research Complex
UAB received approximately $50 million in federal money to help in the construction of a research facility that so far has increased the university's research space by 25 percent. The facility is enabling UAB to bring together investigators from a wide variety of fields to study important health issues such as diabetes and autoimmune diseases, and conduct bone, bioengineering and brain research, all in a single location. The new building has allowed UAB to recruit nationally and internationally renowned researchers, who have in turn brought research funding with them. When completed, UAB anticipates researchers within the facility will generate $100 million in new grants and create approximately 700 jobs. Advances discovered here could result in dramatically improved treatments for diseases such as Lupus and Alzheimer's.

BREMSS
UAB received $3.3 million to explore a comprehensive trauma system through the provision of integrated clinical care, clinical and basic scientific research, prevention, community outreach and education. This has resulted in the development of the Alabama Trauma Registry, which provides data management/analysis from pre-hospital, hospital and rehabilitation sources for health care organizations and government agencies. Also, the Birmingham Regional Emergency Medical Services System (BREMSS) technical capabilities have been enhanced to support centralized triage and transport coordination among pre-hospital care providers on a statewide basis. This ensures patients are sent to the most appropriate hospital for their care. BREMSS this year received the Mitretek Innovations Award in Homeland Security. This program is likely to serve as national model for enhancing trauma care.

Forensic Sciences
UAB received approximately $1M in FY2006 to purchase computer hardware and software to assist the university as it develops a collaborative project with the Birmingham Field Office of the FBI to fight cybercrime and develop new methods in computer forensics. The collaboration will bring together state and federal law enforcement, UAB departments, and private entities not only for research and development activities, but also to design professional development programs for practitioners in such areas as identity theft, illegal spam, fraud, and more. This blending of academia and practical applications can serve as an example for other initiatives throughout the nation.

The Huntsville Times
Tuesday, June 20, 2006

The wider role of UAB

It contributes a robust $3 billion every year to the state's economy

State VIEW

When Alabama's economy grows, so does the amount of money the state can spend on public education. That's because the fastest-growing taxes in a hot economy – sales and income taxes – fuel the Education Trust Fund.

Spend that money wisely, and the economy can continue to grow. There's no wiser way to invest education dollars, in terms of economic development, than by pumping them into top research universities. They are engines that create jobs, stoking the local and state economy. In Alabama, no research engine revs higher than the University of Alabama at Birmingham.

That's why it's exciting to see UAB's plan to target $10 million for biomedical research and economic development. The money comes courtesy of Alabama's growing economy. Thanks to a huge increase in the amount of money flowing into the Education Trust Fund this year, the Legislature raised UAB's state budget for 2007 by 19 percent, from $256 million to $306.5 million.

UAB, with the blessing of the University of Alabama System board of trustees, is taking $10 million off the top of the coming year's increase to establish an IMPACT fund.

The Investment Pool for Action will be used to attract outstanding researchers from other institutions; help UAB keep its own top researchers when other institutions come calling; and support biomedical research with potential for significant economic development.

In recent years, other top-tier institutions have raided some of UAB's best and brightest, even as UAB has returned the favor. Dollars dedicated to retaining top researchers will be crucial ammunition in that war.

Rather than a one-time investment, UAB plans to set aside state dollars every year for the IMPACT fund. This is an important commitment on UAB's part; the potential gains, especially after several years, could be huge.

Let's hope the Legislature's commitment to UAB continues to grow. UAB's economic impact on Birmingham and Alabama already exceeds $3 billion a year. Every dollar the state invests in UAB generates $11, according to an economic impact study of UAB a few years back.

When UAB grows jobs, they are good-paying and won't be exported to nations offering cheap labor. Just as important in Jefferson County, where longstanding air quality problems prevent the recruiting of polluting industries, these jobs are clean. Yet only about 15 cents of each dollar in UAB's annual budget comes from the state.

Magnet for grants

Thankfully, that traditionally woeful support hasn't kept UAB from becoming a research (and economic development) powerhouse, or from trying to climb even higher in national rankings of research institutions. UAB has announced a goal of cracking the top 10 in grants from the National Institutes of Health by 2010; it ranks in the top 20 now.

State dollars that keep and attract the kind of researchers who garner those grants will only help UAB. Not just in national rankings, but as Birmingham's and Alabama's economic engine.

RESEARCH AND DEVELOPMENT

UAB fund to spur technology

Seeks to help budding companies gain viability

By MICHAEL TOMBERLIN
News staff writer

A $2 million fund aims to help research at UAB make the leap from conception to viability where researchers are able to attract venture capital investments and form companies.

UAB Concept Fund LLC was established by Birmingham businessman John McDonald and will work with the UAB Research Foundation to identify prospects for the money. It was incorporated Friday.

William "Sandy" White, head of the research foundation, said the fund will help would-be companies at a time when they are most vulnerable.

"What a university does and what it develops is usually very early-stage technologies," he said. "Once it gets to a certain point, the venture capital world and companies pick it up and run with it. The hard part is trying to bridge that gap. That's really what this fund is all about."

White said the fund will review possible commercial products of technology and research coming out of UAB and Southern Research Institute. A panel will determine where the greatest potential exists and then spend an average of $100,000 on a project to help it along.

He said he envisions much of the money being used in legal work, getting a patent, the formation of the company and early capitalization.

"This would provide an access to those kinds of funds that are really not under the normal purview of the university," he said. "It's not something you use federal dollars for. It's

▶ See **Fund**, Page **3D**

FUND:
UAB reaching out to new companies

▶ From Page **1D**

also the kind of thing venture capitalists don't want to pay for because it's very, very risky."

Jim Hayes, president of the Economic Development Partnership of Alabama, said more business leaders should be willing to take a risk on UAB's work because rewards can be found there.

"I think the community is finally starting to recognize the contribution UAB makes," Hayes said. "We need more business leaders like Mr. McDonald who recognize supporting UAB is a civic endeavor that will pay economic dividends for us all."

White said McDonald set up the fund as a philanthropic gesture. He said the fund might have a stake in some of the companies it supports, but making a hefty return is not the primary goal.

He said McDonald did not want publicity and only reluctantly allowed his name to be released as the benefactor of the fund.

White said when McDonald began discussing the fund, it became difficult to find a blueprint anywhere in the country.

"We've been working on this for many months," he said. "It doesn't fit a classic model."

The new Shelby Biomedical Research Building at UAB could prove a fertile breeding ground for many new companies, White said. However, he said there is plenty of work outside of biotechnology and medicine that is taking place at UAB and Southern Research that could become marketable.

New companies could find a home in the Innovation Depot business incubator being developed at the former Sears building. That building will see the merger of downtown's Entrepreneurial Center and UAB's Office for the Advancement of Developing Industries in Oxmoor Valley.

"What this fund is about is commercializing technology, but also really importantly, it's about starting companies that can be here in Alabama," White said.

The foundation invests in about two dozen companies and generated $11 million in revenues last year — money used to fund more research at UAB.

E-MAIL: *mtomberlin@bhamnews.com*

The Birmingham News
Wednesday, June 28, 2006

The Birmingham News
Wednesday, July 12, 2006

Panel approves funds for UAB

$20 million intended for research complex

By MARY ORNDORFF
News Washington correspondent

WASHINGTON — UAB is in line to receive another $20 million installment from Congress for the next phase of its massive new research complex named for the Alabama senator who directs federal spending on science programs.

It's still a few steps from becoming law, but U.S. Sen. Richard Shelby's subcommittee approved the UAB money Tuesday along with dozens of other Alabama projects. They're part of a 2007 spending plan for commerce, justice and science related agencies — a $51.2 billion endeavor.

The second phase of the Shelby Interdisciplinary Biomedical Research Building will cost about $120 million and add 300,000 square feet of research

▶ See **UAB**, Page **2A**

UAB: Neurosciences center planned

▶ From Page **1A**

space, a 10 percent increase for the University of Alabama at Birmingham, said Richard Marchase, vice president of research. The first phase of the complex cost $140.8 million and was officially dedicated this spring. It was paid for in part with $50 million in federal funding directed by Shelby.

The construction near 18th Street and University Boulevard will make room for a comprehensive neurosciences center for translational, basic and clinical research into neurological diseases, one of six priority areas cited by the School of Medicine's new dean, Robert Rich. The work will involve faculty from neurology, psychiatry, neurobiology and psychology, said Marchase. UAB also received a National Institutes of Health grant for $10 million over five years that "will serve as the glue to allow us to assemble an interdisciplinary research program in the neurosciences," he said.

Shelby, R-Ala., has been a powerful advocate for the urban institution, promoting its goal to be in the top 10 of NIH grants.

As chairman of the commerce, justice and science subcommittee on appropriations, Shelby has great leeway in directing money to the state. But the process has come under increased scrutiny lately as members of Congress try to curb spending, cut the deficit and get past recent scandals involving the appropriations process and well-connected lobbyists.

"There is scrutiny on the earmarks, and there should be," Shelby said in an interview Tuesday. "You shouldn't have frivolous earmarks and they should have a purpose and whoever offers them should be able to defend them. We're very careful with what requests come from members, what they ask for, and what we support."

Some of the other projects included in the bill approved Tuesday, according to a tally from Shelby's office, are:

- ▶ Red Mountain Park Development Project, $1 million.
- ▶ University of Alabama Science and Engineering Complex, $30 million.
- ▶ Aliceville federal prison complex, $25 million.
- ▶ West Alabama Shrimp Aquaculture Program, Auburn, $1 million.
- ▶ Alabama State University science facility, $5 million.
- ▶ National Textile Center, Auburn, $13 million.
- ▶ Huntsville Museum of Art, $500,000.
- ▶ Drought Research Study, $2 million, for UA, UAH, Auburn, Alabama A&M, and Tuskegee University.

E-MAIL: *morndorff@bhamnews.com*

The University of Alabama in Huntsville
Examples of Federally Funded Projects

1. FY 03 – Propulsion Research Center and Laboratory - $4.5M

UAH is one of the primary institutions preparing educated scientists and engineers in applied missile and rocket propulsion systems. UAH also supports both the Redstone Arsenal and NASA Marshall Space Flight Center in propulsion research for manned space flight and our nation's weapons systems. Funds were requested to develop and equip the Propulsion Research Center, a modern facility on campus in which undergraduate and graduate students can safely conduct relatively hazardous propulsion research on both rocket and air-breathing propulsion systems.

The facility consists of office and laboratory space, relocation and acquisition of propulsion research equipment, classroom, safety monitoring control room and a separate live fire test facility.

The propulsion research facility currently conducts studies for NASA, the U.S. Army, and military contractors interested in basic and experimental propulsion systems.

2. FY 02 – Computer Network and Security Design – $405K

Recent world events have served to highlight the need for the research community of universities in the United States to increased the security of their information and knowledge systems infrastructure.

UAH designed, implemented, and tested advanced networking technologies and applications that provide university researchers and educators with a secure, effective, reliable, and robust campus infrastructure. Specifically, UAH designed and implemented network hardware and software to support user authentication, firewall services, redundant fiber, and the establishment of networked storage and work environment. Using UAH as a test bed for similar issues found on college campuses across the United States, this advanced network research will provide for an expansion of

knowledge concerning the way in which a university's research and knowledge management infrastructure can be secured.

3.Transportation Research and Logistics Research $750K

The Office of Economic Development at The University of Alabama in Huntsville produced a comprehensive report for the U.S. Department of Transportation that surveyed anticipated growth in Alabama's economy, including the burgeoning automotive industry, and the impact that growth would have on the state's infrastructure and, ultimately, how the state's overcrowded transportation arteries could inhibit future economic growth. The report also looked at alternative transportation methods and how these alternatives could fit into an overall intermodal transportation strategy.

The major points of the study included:

Anticipated growth in Alabama's major industry clusters is expected to strain the existing transportation infrastructure and potentially limit future economic growth.

Alabama's industrial base, geographic location and natural resources give the state the potential to assume a major role in transportation, logistics and distribution as the freight "gateway" to mid-America.

The Office of Economic Development produced a 164-page report, and a 36-page executive summary.